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EXAMINER
SCHWARTZ, JOSHUA L

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _13 October 2009_.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _17,18,24,25,56,58-62,64-68 and 70-75_ is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _17,18,24,25,56,58-62,64-68 and 70-75_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☐ All   b) ☐ Some * c) ☐ None of:

         1. ☐ Certified copies of the priority documents have been received.

         2. ☐ Certified copies of the priority documents have been received in Application No. _____.

         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail. Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Status of Application

1.   This is a Final Office Action on the Merits. Claims 1717, 18, 24, 25, 56, 58-62, 64-68,
and 70-75 are present for examination at this time.

2.   Claims 17, 18, 24, 25, 56, 58-62, 64-68, and 70-75 are rejected.

3.   Claims 2-5, 11, 12, 20-23 stand cancelled

4.   Claims 17, 24, 61, 66, 70 and 71 stand amended

5.   Clams 74 and 75 have been added

6.   Please note the examiner on this case has changed since the previous office action.

7.   Individual comments relating to the claim amendments in the grounds for rejection
section are in italics.

Response to Arguments

8.   Examiner has read and considered Applicants' arguments. Examiner finds them
unpersuasive. With regard to Applicant's request on page 10 for Examiner to update the title of
the invention to reflect the amended title in the PAIR system, Examiner points out to Applicant,
that Examiner does not have the authority or power to change the title in the PAIR system to
reflect the title on a pending application. Examiner rejects Applicant's arguments on pages 10-11
that the previous Examiner relied on the Choi reference to reject (in the past) what is currently
presented for the first time in Claim 17 by amendment. While Examiner acknowledges that
previous versions of the claims (including a cancelled claim) contained *some* mention of a
previous capacity request, none of those claims contained "previous capacity request" elements
commensurate in scope with that in amended Claim 17, which requires a monitoring means for
monitoring at least one of the capacity request messages compris[ing] information based on
previous capacity requests…]. AS of the previous office action this element was not previously
presented in Claim 17 or any claim that depends from Claim 17.

Therefore as this amended element is <u>not</u> in Claim 17 as previously presented it would premature to respond to arguments regarding an amended element that has not been previously rejected with that claim.

A similar, yet different element was present in previously presented *Independent* Claim 20, (Claim 20, now stands cancelled as of this office action).

Claim Objections

9.   Claim 17 is objected to for lacking singular/plural agreement. Claim 17 recites in relevant part, "<u>wherein at least one of the capacity request messages comprise [sic] information based on previous capacity requests of the at least one subscriber station;</u>"

Claim Rejections

10.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 17-18, 24-25, 56, 58-62, 64-68, and 70-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over IEEE Std 802.16-2001, in view of Choi (U.S.Pat-6272117), in view of Background of the invention, and further in view of "Communications Network" by Quayle, US 6317234B1.

Regarding claims 17 and 61 (Amended), IEEE teaches an apparatus/a method, comprising:
granting means for granting a transmission subscriber station (pg.83, section 6.2.5);1
transmitting means for transmitting grant messages to at least one subscriber station (pg.86,

section 6.2.6.1)

  IEEE fails to specifically disclose monitoring means for monitoring capacity request
message from the at least one subscriber station, grant messages sent by a
base station and data transmission received from the at least one subscriber stations; avoiding
means for avoiding mismatch between a granted and data received from a subscriber station
using information based on request messages, grant messages and received transmissions.

  However, Choi teaches monitoring means for monitoring capacity request message from
the at least one subscriber station (co1.3, lines 36-44 (one or more mobile data terminals to
transmit a request for access to the communication channel upon receiving the message from the
base station)), grant messages sent by a base station (co1.3, lines 36-44 (granting the request for
access to the communication channel to the requesting mobile wireless data terminal) and data
transmission received from the at least one subscriber stations (abstract (co1.3, lines 36- 51
(previous message received from the mobile wireless terminal)); avoiding means for avoiding
mismatch between a granted and data received from a subscriber station using information based
on request messages (co1.3, lines 36-51 (the indication of channel availability can be piggy-
backed onto an acknowledgment message sent by the base station in response to a previous
message received from the mobile wireless data terminal)), grant messages and received
transmissions (co1.3, lines 36- 51).

  Therefore, it would have been obvious to one having ordinary skill in the art at the time
the invention was made to apply the teaching of Choi to IEEE to avoids collision of packet
(reduce the channel utilization rate).

  Furthermore, IEEE and Choi fail to disclose a capacity grant to subscriber station-
specific. However, Background of the invention teaches a capacity grant to subscriber station-
specific ([0005]). Therefore, it would have been obvious to one having ordinary skill in the art at
the time the invention was made to apply the teaching of Background of the invention to IEEE
and Choi to allocate capacity for each mobile wireless terminals connection.

  Furthermore IEEE and Choi fail to explicitly state monitoring capacity requests <u>wherein</u>
<u>at least one of the capacity request messages comprise [sic] information based on previous</u>

capacity requests of the at least one subscriber station; However the preceding limitation is
known in the art of communications.

*"Communications Network" by Quayle, US 6317234B1. Quayle at Col 8, lines 18-30
discloses where the capacity requests factor in not only the latest buffer fullness, but also
information related to previous capacity requests, where information from the earlier "reset
cycles" where capacity requests were made, are factored into the new capacity request. (an
explanation of the relationship between the capacity request and its part of the reset cycle is
further explained at Col 3 lines 20-24)*

*It would have been obvious to one of ordinary skill in the art who would want to take the
teachings of Choi and IEEE who would want to improve the efficiency of those networks to
account for sudden surges in network traffic to combine the teachings of Quayle with that of
Choi and IEEE.*

Regarding claim 18 (Previously Presented), IEEE, Choi, and Background of the
invention further teach the base station of claim 17, wherein the base station is configured to
monitor data based on messages and transmissions using a memory table (see IEEE, table 58,
pg.85, section 6.2.5-6.2.5.4).

Regarding claim 64, IEEE teaches an apparatus/a computer program embodied on a
computer-readable medium, comprising:
first transmitting means for transmitting capacity request messages of at least one connection
(pg.86, section 6.2.6.1);
receiving means for receiving capacity grant messages from a base station (pg.83, section 6.2.5);

IEEE fails to specifically disclose allocating means for allocating connection granted by a
base station; second transmitting means for transmitting messages, wherein the messages
comprise information based on previous capacity requests of a
subscriber station; and third transmitting means for transmitting data according to a capacity
allocation made by the subscriber station.
However, Choi teaches allocating means for allocating connection granted by a base station

(col.3, lines 31-51 (sending a message from the base station in a first set of time slots indicating whether the communication channel is available)); second transmitting means for transmitting messages (col.3, lines 36-51), wherein the messages comprise information based on previous capacity requests of a subscriber station (col.3, lines 36-51 (previous message received from the mobile wireless terminal)); and third transmitting means for transmitting data according to a capacity allocation made by the subscriber station (col.8, lines 21-26 (the base station grants the uplink message channel to the requesting wireless data terminal by designating a requesting wireless data terminal in an ACK control packet corresponding to the data packet received by the base station)

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Choi to IEEE to avoids collision of packet (reduce the channel utilization rate).

Furthermore, IEEE and Choi fail to disclose connection-specific a capacity granted.

However, Background of the invention teaches connection-specific a capacity granted ([0005]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Background of the invention to IEEE and Choi to allocate capacity for each mobile wireless terminals connection.

Regarding claims 24 and 66 (Amended), IEEE teaches an apparatus/a computer program embodied on a computer-readable medium, comprising:

a receiver configured to receive capacity request messages from at least one subscriber station (pg.86, section 6.2.6.1); and a processor configured to, grant a transmission capacity subscriber station (pg.83, section 6.2.5), transmit grant messages to the at least one subscriber station (pg.86, section 6.2.6.1); and IEEE fails to specifically disclose monitoring request messages received from the at least one subscriber stations, grant messages sent by a base station and data transmissions received from the at least one subscriber station; wherein the processor is further configured to avoid a mismatch between a granted and data received from a subscriber station using information based on request messages, grant messages and received transmissions.

However, Choi teaches monitoring request messages received from the at least one
subscriber stations (col.3, lines 36-44 (one or more mobile data terminals to transmit a request
for access to the communication channel upon receiving the message from the base station)),
grant messages sent by a base station (col.3, lines 36-44 (granting the request for access to the
communication channel to the requesting mobile wireless data terminal) and data transmissions
received from the at least one subscriber station (abstract (col.3, lines 36-51 (previous message
received from the mobile wireless terminal)); wherein the processor (base station include
processor) is further configured to avoid a mismatch between a granted and data received from a
subscriber station using information based on request messages (Col .3, lines 36-51 (the
indication of channel availability can be piggy-backed onto an acknowledgment message sent by
the base station in response to a previous message received from the mobile wireless data
terminal)), grant messages and received transmissions (col.3, lines 36-51).
Therefore, it would have been obvious to one having ordinary skill in the art at the time the
invention was made to apply the teaching of Choi to IEEE to avoids collision of packet (reduce
the channel utilization rate).

Furthermore, IEEE and Choi fail to disclose a capacity grant to subscriber station-
specific. However, Background of the invention teaches a capacity grant to subscriber station-
specific ([0005]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time
the invention was made to apply the teaching of Background of the invention to IEEE and Choi
to allocate capacity for each mobile wireless terminals connection.

Furthermore IEEE and Choi fail to explicitly state monitoring capacity requests wherein
at least one of the capacity request messages comprise [sic] information based on previous
capacity requests of the at least one subscriber station; However the preceding limitation is
known in the art of communications.

*"Communications Network" by Quayle, US 6317234B1. Quayle at Col 8, lines 18-30
discloses where the capacity requests factor in not only the latest buffer fullness, but also*

information related to previous capacity requests, where information from the earlier "reset
cycles" where capacity requests were made, are factored into the new capacity request. (an
explanation of the relationship between the capacity request and its part of the reset cycle is
further explained at Col 3 lines 20-24)

     It would have been obvious to one of ordinary skill in the art who would want to take the
teachings of Choi and IEEE who would want to improve the efficiency of those networks to
account for sudden surges in network traffic to combine the teachings of Quayle with that of
Choi and IEEE.

     Regarding claim 25 (Previously Presented), IEEE teaches an apparatus comprising: a
transmitter configured to transmit capacity request messages of at least one connection (pg.86,
section 6.2.6.1); and a processor configured to, IEEE fails to specifically disclose allocate
connection-specific a capacity granted by a base station; transmit message wherein the message
comprise information on previous capacity request; and transmit data from a subscriber station
according to a capacity allocation made by the subscriber station.

IEEE fails to specifically disclose allocate connection granted by a base station; transmit
message wherein the message comprise information on previous capacity request; and transmit
data from a subscriber station according to a capacity allocation made by the subscriber station.

     However, Choi teaches allocate connection a granted by a base station (sending a
message from the base station in a first set of time slots indicating whether the communication
channel is available)); transmit message wherein the message comprise information on previous
capacity request (col.3, lines 36-51 (previous message received from the mobile wireless
terminal)); and transmit data from a subscriber station according to a capacity allocation made by
the subscriber station (co1.8, lines 21-26 (the base station grants the uplink message channel to
the requesting wireless data terminal by designating a requesting wireless data terminal in an
ACK control packet corresponding to the data packet received by the base station)).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Choi to IEEE to avoids collision of packet (reduce the channel utilization rate).

Furthermore, IEEE and Choi fail to disclose connection-specific a capacity granted by a base station.

However, Background of the invention connection-specific a capacity granted by a base station ([0005]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Background of the invention to IEEE and Choi to allocate capacity for each mobile wireless terminals connection.

Regarding claim 56 (Previously Presented),, IEEE teaches a method, comprising: transmitting capacity request messages of at least one connection (pg.86, section 6.2.6.1); receiving grant messages from a base station (pg.83, section 6.2.5);

IEEE fails to specifically disclose transmitting messages, wherein the messages comprise information based on previous capacity requests of a subscriber station; and for transmitting data according to a capacity allocation made by the subscriber station.

However, Choi teaches transmitting messages (col.3, lines 36-51), wherein the messages comprise information based on previous capacity requests of a subscriber station (col.3, lines 36-51 (previous message received from the mobile wireless terminal)); and for transmitting data according to a capacity allocation made by the subscriber station (co1.8, lines 21-26 (the base station grants the uplink message channel to the requesting wireless data terminal by designating a requesting wireless data terminal in an ACK control packet corresponding to the data packet received by the base station))

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Choi to IEEE to avoids collision of packet (reduce the channel utilization rate).

Furthermore, IEEE and Choi fail to disclose connection-specifically allocating a capacity granted by the base station.

However, Background of the invention teaches connection-specifically allocating a capacity granted by the base station ([0005]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Background of the invention to IEEE and Choi to allocate capacity for each mobile wireless terminals connection.

Regarding claim 58 (Previously Presented), IEEE, Choi, and Background further teach the method of claim 56, wherein the transmitting comprises transmitting an update message that replaces at the base station a previous information connection- specifically (see IEEE, pg.86 (when the BS receives an incremental Bandwidth Request, it shall add the quantity of bandwidth requested to its current perception of the bandwidth needs of the connection. When the BS receives an aggregate Bandwidth Request, it shall replace its perception of the bandwidth needs of the connection with the quantity of bandwidth requested)).

Regarding claim 59 (Previously Presented), IEEE, Choi, and Background further teach the method of claim 56, wherein the transmitting comprises transmitting an update message that replaces information based on a need for bandwidth for a connection (see IEEE, pg.86 (when the BS receives an incremental Bandwidth Request, it shall add the quantity of bandwidth requested to its current perception of the bandwidth needs of the connection. When the BS receives an aggregate Bandwidth Request, it shall replace its perception of the bandwidth needs of the connection with the quantity of bandwidth requested)).

Regarding claim 60 (Previously Presented), IEEE, Choi, and Background further teach the method of claim 56, further comprising: transmitting update messages comprising information based on previous capacity requests, wherein the update messages replace at the base station previous information on a connection (see IEEE, pg.86 (when the BS receives an incremental Bandwidth Request, it shall add the quantity of bandwidth requested to its current perception of the bandwidth needs of the connection. When the BS receives an aggregate Bandwidth Request, it shall replace its perception of the bandwidth needs of the connection with

the quantity of bandwidth requested)).

  Regarding claim 62 (Previously Presented), IEEE, Choi, and Background further teach
the method of claim 61, further comprising: monitoring data based on messages and
transmissions using a memory table (see IEEE, table 58, pg.85, section 6.2.5-6.2.5.4).

  Regarding claim 65 (Previously Presented), is rejected with the same reasons set forth
in claim 60.

  Regarding claim 67 (Previously Presented), IEEE, Choi, and Background further teach
the computer program of claim 66, further comprising: receiving update messages comprising
information based on previous capacity requests, wherein the update messages replace previous
information on a connection (see IEEE, pg.86 (when the BS receives an
incremental Bandwidth Request, it shall add the quantity of bandwidth requested to its current
perception of the bandwidth needs of the connection. When the BS receives an aggregate
Bandwidth Request, it shall replace its perception of the bandwidth needs of the connection with
the quantity of bandwidth requested).

  Regarding claim 68 (Previously Presented), this claim is rejected with the same reasons
set forth in claim 62.

  Regarding claim 70 (Previously Presented), this claim is rejected with the same reasons
set forth in claims 60 and 17.

  Regarding claim 71 (Previously Presented), this claim is rejected with the same reasons
set forth in claims 60 and 17.

  Regarding claim 72 (Previously Presented), this claim is rejected with the same reasons
set forth in claim63.

  Regarding claim 73 (Previously Presented), this claim is rejected with the same reasons
set forth in claim 60.

  Regarding Claim 74 (new), this claim is rejected for the reasons of Claims 56, 58, and
17 combined. All Claim 74 adds over Claims 56 and 58 is the statement that one bandwidth is
less than or equal to the other bandwidth. However that is a mathematical tautology. When two
numbers are compared one number will always be less than or equal to the other number.

With regard to the statement of the "third" bandwidth request replacing the second, this is nothing more than a repetition of steps in Claim 58.

Applicant's substitution of bandwidth request, herein which is synonymous for the phrase "capacity request" in Claims 56 and 58 is immaterial. A reading of the Quayle reference cited herein, specifically at Col 2, lines 22-28 makes it quite clear that the capacity requests are bandwidth requests.

Regarding Claim 75 (new), this claim is rejected for the reasons of Claim 74, and that adding a fourth message request, is again a repetition of steps previously claimed.

Conclusion

11.   Applicant's amendment necessitated the ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSHUA SCHWARTZ whose telephone number is (571)270-7494. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Harper, can be reached on 571-272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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